Mikrochimica Acta

An International Journal
for Physical and Chemical Methods of Analysis

Editorial Board:
F. Grasserbauer, Wien
H. M. Hawkridge, Richmond, VA
T. E. Leyden, Fort Collins, CO
S. S. Ma, New York, NY
K. Mizuike, Nagoya
J. A. Nieman, Urbana, IL
W. Simon, Zürich
G. Tölg, Dortmund
H. Wegscheider, Graz (Managing Editor)

1986 I

ISSN 0026-3672

Springer-Verlag
Wien New York

Mikrochimica Acta

Advisory Board:

R. A. Chalmers, Aberdeen (Chairman)

F. Adams, Wilrijk
W. A. Aue, Halifax
G. den Boef, Amsterdam
N. J. Dovichi, Edmonton
K. Furuya, Tokyo
B. Griepink, Brussels
H. Hatano, Kyoto
D. M. Hercules, Pittsburgh, PA
J. F. K. Huber, Wien
A. Hulanicki, Warszawa
G. Johansson, Lund
G. Kainz, Wien
H. Kawaguchi, Nagoya
R. Kellner, Wien
D. Klockow, Dortmund
A. Lamotte, Vernaison
R. J. Magee, Bundoora
B. Magyar, Zürich
H. Malissa, Wien
W. Merz, Ludwigshafen a. Rh.
M. Meyerhoff, Ann Arbor, MI
J. W. Mitchell, Murray Hill, NJ
L. Niinistö, Espoo
H. M. Ortner, Reutte
M. Otto, Freiberg
E. Pella, Milano
W. Pfannhauser, Wien
E. Pungor, Budapest
A. Sanz Medel, Oviedo
P. Schramel, Neuherberg
M. Tanaka, Nagoya
C. Vandecasteele, Gent
H. Weisz, Freiburg i. Br.
T. S. West, Aberdeen
E. S. Yeung, Ames, IA
T. Yotsuyanagi, Sendai
Yu. A. Zolotov, Moscow

The exclusive copyright for all languages and countries, including the right for photomechanical and any other reproductions including microform is transferred to the publisher

© 1987 by Springer-Verlag/Wien

Contents

No. 1-2

Kreindl, T. G., H. Malissa, and **K. Winsauer:** Method for the Simultaneous Determination of Traces of Atrazine, Pyrazon and Lindane for Monitoring Potable Water Supplies 1

Aller, A. J.: Selective Chelatometric Titration of Strontium in Aluminium Alloys with ((Ethylenedioxy)Diethylene Dinitrilo)Tetra-Acetic Acid 15

Goulart, M. O. F., A. E. G. Sant'Ana, and **V. Horak:** Differentiation Between *o*- and *p*-Quinol/Quinone Functionality with a Simple Test Using Cyclic-Voltammetry 23

Kavlentis, E.: Synthesis and Analytical Properties of 3,4-Dihydroxybenzaldehyde Guanylhydrazone (3,4-DBGH) 27

Funahashi, S., Y. Ito, H. Kakito, M. Inamo, Y. Hamada, and **M. Tanaka:** Metal Ion Incorporation into N-Methyl-5,10,15,20-tetrakis(4-sulfonatophenyl)porphine and Its Differential Rates as Applied to the Kinetic Determination of Copper(II) and Zinc(II) in Serum ... 33

Lichareva, N.: The Simultaneous Determination of Gold and Silver in Blister Copper and Speiss Products 49

Borisova, L. V., M. V. Koroleva, Yu. N. Dubrov, and **A. K. Chibisov:** Spectrophotometric and ESR Methods of Rhenium Determination Based on One Electron Photoreduction of Re(VII) 57

Nomizu, T., and **A. Mizuike:** Electron Microscopy of Submicron Particles in Natural Waters — Specimen Preparation by Centrifugation 65

Cacho Palomar, J., A. López Molinero, and **M. Ibañez:** Arsenazo, 2-(4-Arsonophenyl(azo-7-(4-antipyril)azo-1,8-dihydroxy-3,6-naphtalene Disulphonic Acid as Reagent for Calcium Ions. New Parameters for Metallochromic Indicator Characterization 73

Campiglio, A.: Potentiometric Microdetermination of Cadmium in Organic Compounds After Oxygen Flask Combustion 87

Tarín, P., E. Figuerola, and **M. Blanco:** Flotation and Spectrophotometric Determination of Silver with 4-(*p*-Nitrophenylazo)-2-amino-3-pyridinol 97

Castillo, J. R., A. López-Molinero, and **T. Sucunza:** Determination of As, Sb and Bi in High-Purity Copper by Electrothermal Atomic Absorption Spectrometry 105

Ramis Ramos, G., M. C. García Alvarez-Coque, R. M. Villanueva Camañas, and **C. Mongay Fernández:** On the Preparation of Simple and Universal Buffers Including Polynuclear Species 115

Ballesteros, L., and **D. Pérez-Bendito:** Simultaneous Determination of Nickel and Copper, on the Basis of Complex-Formation Kinetics .. 123

Tamhina, B., and **V. Vojković:** Extraction and Spectrophotometric Determination of Titanium(IV) with 3-Hydroxy-2-Methyl-1-(4-Tolyl)-4-Pyridone 135

No. 3-4

Manz, A., and **W. Simon:** Position Control and Extra-Column Effects of a Microelectrode Detector in Open-Tubular Column Liquid Chromatography 147

Reddy, M. M., M. A. Benefiel, and **H. C. Claassen:** Cadmium, Copper, Lead, and Zinc Determination in Precipitation: A Comparison of Inductively Coupled Plasma Atomic Emission Spectrometry and Graphite Furnace Atomization Atomic Absorption Spectrometry .. 159

Rozali bin Othman, J. O. Hill, and **R. J. Magee:** Studies on Substituted Phenols by Differential Pulse Cathodic Stripping Voltammetry: 1. Pentachlorophenol 171

Pérez Pont, M. L., M. J. Sánchez, A. Francisco, and **F. García Montelongo:** Extraction-Spectrophotometric Determination of Iron with 2-(2′-Benzothiazolylazo)-4,6-dimethylphenol 183

Rashid, M., and **M. Ejaz:** Extraction of Mercury from Aqueous Iodide Solutions by Trilaurylamine N-Oxide and Its Subsequent Determination by Atomic Absorption Spectrometry 191

Hassan, S. S. M., and **M. A. Mari:** Direct Determination of Benzylnitriles Using the Cyanide Ion Selective Electrode 201

Phillips, D. A., K. Soroka, R. S. Vithanage, and **P. K. Dasgupta:** Enhancement and Quenching of Fluorescence of Metal Chelates of 8-Hydroxyquinoline-5-Sulfonic Acid 207

Coello, J., J. Gené, and **H. Iturriaga:** Atomic Absorption Determination of Indium After Extraction with Di-(2-ethylhexal)phosphoric Acid 221

Brajter, K., and **K. Słonawska:** Selection of the Sample Composition for the Selective Preconcentration of Some Platinum Group Metal Ions by Donnan Dialysis 231

Kavlentis, E.: Spectrophotometric Analysis of the Sulphide-Thiocyanate and Cyanide-Thiocyanate Mixtures Using the Copper(II)-DPGH Complex 239

Binkowski, J., and P. Rutkowski: Elemental Analysis of Organic Phosphorus Compounds X. Schöniger-Flask Method for Phosphorus 245

Mitchell, P. G., B. Greene, and J. Sneddon: Direct Determination of Mercury in Solid Algal Cells by Direct-Current Argon-Plasma Emission Spectrometry with Sample Introduction by Electrothermal Vaporization 249

Bermejo Barrera, P., J. F. Vazquez Gonzalez, and F. Bermejo Martinez: Direct Determination of Molybdenum in Mineral Waters by Atomic Absorption Spectrometry with Electrothermal Atomization 259

Hiremath, R. C., and S. M. Mayanna: Spectrophotometric Method for Assay of Penicillins 265

No. 5-6

Kellner, R., G. Fischböck, and Ch. Minich: FTIR-Microscopy Versus FTIR-ATR-Spectroscopy for the Analysis of Multilayer Polymer Films 271

Gruner, W., J. Kunath, and A. Veres: Electrochemical Characterization of Solid Materials in Volume Range. I. Chemical Effects on the Matrix-Phase Separation 281

Kunath, J., and W. Gruner: Electrochemical Characterization of Solid Materials in Volume Range. II. Physical Process Parameters in Phase Isolation Process 291

Gruner, W.: Electrochemical Characterization of Solid Materials in Volume Range. III. Voltammetric Studies on Isolated Fe_3C 301

de Benzo, Z. A., G. Castro, N. Carrión, and J. Flores: Preliminary Study on the Recuperation of Exhausted Graphite Tubes for the Analysis of Cu and Cr by ETAAS 311

Nikolić, K., and M. Medenica: Potentiometric Determination of 8-Chlorotheophylline 325

Maruizumi, T., D. Wegmann, G. Suter, D. Ammann, and W. Simon: Neutral Carrier-Based Na^+-Selective Electrode for Application in Blood Serum 331

Trivedi, R. H., S. H. Mehta, S. D. Bhatt, and B. P. Chaudhari: Photometric Determination of Iodine in Iodated Salt Using Diphenylcarbazide 337

Aneva, Z., S. Arpadjan, S. Alexandrov, and **K. Kovatcheva:** Synergetic Extraction of Platinum(IV) from Dilute Hydrochloric Acid by Isoamyl Alcohol — Methylisobutylketone Mixture 341

Thimme Gowda, A., and **N. M. Made Gowda:** Spectrophotometric Determination of Osmium with Ethylisobutrazine Hydrochloride .. 351

Dutta, G., and **B. Sur:** Spectrophotometric Determination of Rhenium Using 2-Pyridyl Thiourea 359

Malissa, H.: Analytical Chemistry — Seen in Perspective 371

Richard, J. J., and **G. A. Junk:** Solid Phase Versus Solvent Extraction of Pesticides from Water 387

Asuero, A. G., M. J. Navas, A. F. Recamales, and **M. A. Herrador:** Numerical Evaluation of Overlapping Acidity Constants from the Ratio of Absorbances at Two Wavelengths 395

Komorsky-Lovrić, Š.: Electrochemical Studies of Berberine and Jatrorubine by Pulse Polarography 407

Kenndler, E., and **R. Katzenberger:** Isotachophoretic Analysis of Pharmaceutic Formulations with Different Matrices: Determination of Nicotinic Acid in Capsules, Tablets, Dragees, Ointments and Tinctures 415

Pichaj, M. A., and **F. Bet-Pera:** Amplification-Spectrophotometric Determination of Arsenic 429

News Section

Book Review 435

6th International Conference on Fourier Transform Spectroscopy ... 437

Abstracted/Indexed in: Current Contents, SCI, ASCA, Analytical Abstracts, Biosis, Chemical Abstracts

Author Index

Alexandrov, S., see *Aneva, Z.* 341

Aller, A. J. Selective Chelatometric Titration of Strontium in Aluminium Alloys with ((Ethylenedioxy)Diethylene Dinitrilo)Tetra-Acetic Acid. 15.

Ammann, D., see *Maruizumi, T.* 331.

Aneva, Z., S. Arpadjan, S. Alexandrov, and *K. Kovatcheva.* Synergetic Extraction of Platinum(IV) from Dilute Hydrochloric Acid by Isoamyl Alcohol — Methylisobutylketone Mixture. 341.

Arpadjan, S., see *Aneva, Z.* 341.

Asuero, A. G., M. J. Navas, A. F. Recamales, and *M. A. Herrador.* Numerical Evaluation of Overlapping Acidity Constants from the Ratio of Absorbances at Two Wavelengths. 395.

Ballesteros, L., and *D. Pérez-Bendito.* Simultaneous Determination of Nickel and Copper, on the Basis of Complex-Formation Kinetics. 123.

Benefiel, M. A., see *Reddy, M. M.* 159.

Bermejo Barrera, P., J. F. Vazquez Gonzalez, and *F. Bermejo Martinez.* Direct Determination of Molybdenum in Mineral Waters by Atomic Absorption Spectrometry with Electrothermal Atomization. 259.

Bermejo Martinez, F., see *Bermejo Barrera, P.* 259.

Bet-Pera, F., see *Pichaj, M. A.* 429.

Bhatt, S. D., see *Trivedi, R. H.* 337.

Binkowski, J., and *P. Rutkowski.* Elemental Analysis of Organic Phosphorus Compounds. X. Schöniger-Flask Method for Phosphorus. 245.

Blanco, M., see *Tarín, P.* 97.

Borisova, L. V., M. V. Koroleva, Yu. N. Dubrov, and *A. K. Chibisov.* Spectrophotometric and ESR Methods of Rhenium Determination Based on One Electron Photoreduction of Re(VII). 57.

Brajter, K., and *K. Słonawska.* Selection of the Sample Composition for the Selective Preconcentration of Some Platinum Group Metal Ions by Donnan Dialysis. 231.

Cacho Palomar, J., A. López Molinero, and *M. Ibañez.* Arsenazo, 2-(4-Arsonophenyl(azo-7-(4-antipyril)azo-1,8-dihydroxy-3,6-naphtalene Disulphonic Acid as Reagent for Calcium Ions. New Parameters for Metallochromic Indicator Characterization. 73.

Campiglio, A. Potentiometric Microdetermination of Cadmium in Organic Compounds After Oxygen Flask Combustion. 87.

Carrión, N., see *de Benzo, Z. A.* 311.

Castillo, J. R., A. López Molinero, and *T. Sucunza.* Determination of As, Sb and Bi in High-Purity Copper by Electrothermal Atomic Absorption Spectrometry. 105.

Castro, G., see *de Benzo, Z. A.* 311.

Chaudhari, B. P., see *Trivedi, R. H.* 337.

Chibisov, A. K., see *Borisova, L. V.* 57.

Claassen, H. C., see *Reddy, M. M.* 159.

Coello, J., J. Gené, and *H. Iturriaga.* Atomic Absorption Determination of Indium After Extraction with Di-(2-ethylhexal)phosphoric Acid. 221.

Dasgupta, P. K., see *Phillips, D. A.* 207.

de Benzo, Z. A., G. Castro, N. Carrión, and *J. Flores.* Preliminary Study on the Recuperation of Exhausted Graphite Tubes for the Analysis of Cu and Cr by ETAAS. 311.

Dubrov, Yu. N., see *Borisova, L. V.* 57.

Dutta, G., and *B. Sur.* Spectrophotometric Determination of Rhenium Using 2-Pyridyl Thiourea. 359.

Ejaz, M., see *Rashid, M.* 191.

Figuerola, E., see *Tarín, P.* 97.

Fischböck, G., see *Kellner, R.* 271.

Flores, J., see *de Benzo, Z. A.* 311.

Francisco, A., see *Pérez Pont, M. L.* 183.

Funahashi, S., Y. Ito, H. Kakito, M. Inamo, Y. Hamada, and *M. Tanaka.* Metal Ion Incorporation into N-Methyl-5,10,15,20-tetrakis-(4-sulfonatophenyl)porphine and Its Differential Rates as Applied to the Kinetic Determination of Copper(II) and Zinc(II) in Serum. 33.

García Alvarez-Coque, M. C., see *Ramis Ramos, G.* 115.

García Montelongo, F., see *Pérez Pont, M. L.* 183.

Gené, J., see *Coello, J.* 221.

Goulart, M. O. F., A. E. G. Sant' Ana, and *V. Horak.* Differentiation Between *o*- and *p*-Quinol/Quinone Functionality with a Simple Test Using Cyclic Voltammetry. 23.

Greene, B., see *Mitchell, P. G.* 249.

Gruner, W. Electrochemical Characterization of Solid Materials in Volume Range. III. Voltammetric Studies on Isolated Fe_3C. 301.

Gruner, W., J. Kunath, and *A. Veres.* Electrochemical Characterization of Solid Materials in Volume Range. I. Chemical Effects on the Matrix-Phase Separation. 281.

Gruner, W., see *Kunath, J.* 291.

Hamada, Y., see *Funahashi, S.* 33.

Hassan, S. S. M., and *M. A. Mari.* Direct Determination of Benzylnitriles Using the Cyanide Ion Selective Electrode. 201.

Herrador, M. A., see *Asuero, A. G.* 395.

Hill, J. O., see *Rozali bin Othman.* 171.

Hiremath, R. C., and *S. M. Mayanna*. Spectrophotometric Method for Assay of Penicillins. 265.

Horak, V., see *Goulart, M. O. F.* 23.

Ibañez, M., see *Cacho Palomar, J.* 73.

Inamo, M., see *Funahashi, S.* 33.

Ito, Y., see *Funahashi, S.* 33.

Iturriaga, H., see *Coello, J.* 221.

Junk, G. A., see *Richard, J. J.* 387.

Kakito, H., see *Funahashi, S.* 33.

Katzenberger, R., see *Kenndler, E.* 415.

Kavlentis, E. Spectrophotometric Analysis of the Sulphide-Thiocyanate and Cyanide-Thiocyanate Mixtures Using the Copper(II)-DPGH Complex. 239.

Kavlentis, E. Synthesis and Analytical Properties of 3,4-Dihydroxybenzaldehyde Guanylhydrazone (3,4-DBGH). 27.

Kellner, R., G. Fischböck, and *Ch. Minich*. FTIR-Microscopy Versus FTIR-ATR-Spectroscopy for the Analysis of Multilayer Polymer Films. 271.

Kenndler, E., and *R. Katzenberger*. Isotachophoretic Analysis of Pharmaceutic Formulations with Different Matrices: Determination of Nicotinic Acid in Capsules, Tablets, Dragees, Ointments and Tinctures. 415.

Komorsky-Lovrić, Š. Electrochemical Studies of Berberine and Jatrorubine by Pulse Polarography. 407.

Koroleva, M. V., see *Borisova, L. V.* 57.

Kovatcheva, K., see *Aneva, Z.* 341.

Kreindl, T. G., H. Malissa, and *K. Winsauer*. Method for the Simultaneous Determination of Traces of Atrazine, Pyrazon and Lindane for Monitoring Potable Water Supplies. 1.

Kunath, J., and *W. Gruner*. Electrochemical Characterization of Solid Materials in Volume Range. II. Physical Process Parameters in Phase Isolation Process. 291.

Kunath, J., see *Gruner, W.* 281.

Lichareva, N. The Simultaneous Determination of Gold and Silver in Blister Copper and Speiss Products. 49.

López Molinero, A., see *Cacho Palomar, J.* 73.

López Molinero, A., see *Castillo, J. R.* 105.

Made Gowda, N. M., see *Thimme Gowda, A.* 351.

Magee, R. J., see *Rozali bin Othman.* 171.

Malissa, H. Analytical Chemistry — Seen in Perspective. 371.

Malissa, H., see *Kreindl, T. G.* 1.

Manz, A., and *W. Simon*. Position Control and Extra-Column Effects of a Microelectrode Detector in Open-Tubular Column Liquid Chromatography. 147.

Mari, M. A., see *Hassan, S. S. M.* 201.

Maruizumi, T., D. Wegmann, G. Suter, D. Ammann, and *W. Simon*. Neutral Carrier-Based Na^+-Selective Electrode for Application in Blood Serum. 331.

Mayanna, S. M., see *Hiremath, R. C.* 265.

Medenica, M., see *Nikolić, K.* 325.

Mehta, S. H., see *Trivedi, R. H.* 337.

Minich, Ch., see *Kellner, R.* 271.

Mitchell, P. G., B. Greene, and *J. Sneddon.* Direct Determination of Mercury in Solid Algal Cells by Direct-Current Argon-Plasma Emission Spectrometry with Sample Introduction by Electrothermal Vaporization. 249.

Mizuike, A., see *Nomizu, T.* 65.

Mongay Fernández, C., see *Ramis Ramos, G.* 115.

Navas, M. J., see *Asuero, A. G.* 395.

Nikolić, K., and *M. Medenica.* Potentiometric Determination of 8-Chlorotheophylline. 325.

Nomizu, T., and *A. Mizuike.* Electron Microscopy of Submicron Particles in Natural Waters — Specimen Preparation by Centrifugation. 65.

Pérez-Bendito, D., see *Ballesteros, L.* 123.

Pérez Pont, M. L., M. J. Sánchez, A. Francisco, and *F. García Montelongo.* Extraction-Spectrophotometric Determination of Iron with 2-(2′-Benzothiazolylazo)-4,6-dimethylphenol. 183.

Phillips, D. A., K. Soroka, R. S. Vithanage, and *P. K. Dasgupta.* Enhancement and Quenching of Fluorescence of Metal Chelates of 8-Hydroxyquinoline-5-Sulfonic Acid. 207.

Pichaj, M. A., and *F. Bet-Pera.* Amplification-Spectrophotometric Determination of Arsenic. 429.

Ramis Ramos, G., M. C. García Alvarez-Coque, R. M. Villanueva Camañas, and *C. Mongay Fernández.* On the Preparation of Simple and Universal Buffers Including Polynuclear Species. 115.

Rashid, M., and *M. Ejaz.* Extraction of Mercury from Aqueous Iodide Solutions by Trilaurylamine N-Oxide and Its Subsequent Determination by Atomic Absorption Spectrometry. 191.

Recamales, A. F., see *Asuero, A. G.* 395.

Reddy, M. M., M. A. Benefiel, and *H. C. Claassen.* Cadmium, Copper, Lead, and Zinc Determination in Precipitation: A Comparison of Inductively Coupled Plasma Atomic Emission Spectrometry and Graphite Furnace Atomization Atomic Absorption Spectrometry. 159.

Richard, J. J., and *G. A. Junk.* Solid Phase Versus Solvent Extraction of Pesticides from Water. 387.

Rozali bin Othman, J. O. Hill, and *R. J. Magee.* Studies on Substituted Phenols by Differential Pulse Cathodic Stripping Voltammetry: 1. Pentachlorophenol. 171.

Rutkowski, P., see *Binkowski, J.* 245.

Sánchez, M. J., see *Pérez Pont, M. L.* 183.

Sant'Ana, A. E. G., see *Goulart, M. O. F.* 23.

Simon, W., see *Manz, A.* 147.

Simon, W., see *Maruizumi, T.* 331.

Słonawska, K., see *Brajter, K.* 231.

Sneddon, J., see *Mitchell, P. G.* 249.

Soroka, K., see *Phillips, D. A.* 207.

Sucunza, T., see *Castillo, J. R.* 105.

Sur, B., see *Dutta, G.* 359.

Suter, G., see *Maruizumi, T.* 331.

Tambina, B., and *V. Vojković*. Extraction and Spectrophotometric Determination of Titanium(IV) with 3-Hydroxy-2-Methyl-1-(4-Tolyl)-4-Pyridone. 135.

Tanaka, M., see *Funahashi, S.* 33.

Tarín, P., E. Figuerola, and *M. Blanco*. Flotation and Spectrophotometric Determination of Silver with 4-(*p*-Nitrophenylazo)-2-amino-3-pyridinol. 97.

Thimme Gowda, A., and *N. M. Made Gowda*. Spectrophotometric Determination of Osmium with Ethylisobutrazine Hydrochloride. 351.

Trivedi, R. H., S. H. Mehta, S. D. Bhatt, and *B. P. Chaudhari*. Photometric Determination of Iodine in Iodated Salt Using Diphenylcarbazide. 337.

Vazquez Gonzalez, J. F., see *Bermejo Barrera, P.* 259.

Veres, A., see *Gruner, W.* 281.

Villanueva Camañas, R. M., see *Ramis Ramos, G.* 115.

Vithanage, R. S., see *Phillips, D. A.* 207.

Vojković, V., see *Tambina, B.* 135.

Wegmann, D., see *Maruizumi, T.* 331.

Winsauer, K., see *Kreindl, T. G.* 1.

Subject Index

AAS 259
acidity constants 395
algal cells 249
aluminium alloys 15
amine oxide 191
analysis 301
antimony 105
arsenazo 73
arsenic 105, 429
atomic absorption spectrometry 49, 231
ATR-spectroscopy 271

2-(2′-benzothiazolylazo)-4,6-dimethylphenol 183
berberine 407
bismuth 105
blister copper 49
blood serum 331
borates 23
buffers 115

calcium 73
capillary gas chromatography 1
cathodic stripping voltammetry 171
cation and anion-exchange membranes 231
centrifugation 65
chelatometric titration 15
8-chlorotheophylline 325
clinical analyser 331
Co 123
coating 311
copper 105
cyanide 239
cyanide electrode 201
cyclic voltammetry 23

3,4-DBGH 27
determination of benzylnitriles 201
differential rate 33
3,4-dihydroxybenzaldehyde guanylhydrazone 27
dilute HCl solution 341
di-(2-pyridyl)ketone guanylhydrazone 239
direct-current plasma 249
Donnan dialysis 231
DPC 337

EGTA 15
electrochemical analysis 281, 291
electrochemistry 301
electron microscopy 65
electron spin resonance 57
electrothermal AAS 105
electrothermal atomization 259
enrichment techniques 281, 291
environmental contamination 159
ethylisobutrazine 351
extraction 135
extraction-spectrophotometric determination 183

ferrozine 429
flotation 97
fluorescence 207
fluorescence quenching 207
FTIR-spectroscopy 271
furnace 311

goitre control 337
gold 49

heteropoly acid 429

hydrolysis 265
8-hydroxyquinoline-5-sulfonic acid 207

IAA-MIBK solvent mixture 341
indium atomic absorption determination 221
indium di-(2-ethylhexyl)phosphoric acid equilibrium 221
iodate analysis 337
iodated/iodised salt 337
ion-selective electrode 331
IR-microscopy 271
iron 183
isotachophoresis 415

jatrorubine 407

kinetic analysis 33, 123
kinetosis 325

liquid chromatography 147

material sciences 281, 291
matrix effects 415
mechanism 341
mercury 191, 249
metal chelates 207
metalloporphyrin 33
N-methylporphine 33
microanalysis 271
microdetermination 87
microsensor 147
molybdenum 259

Na^+ selectivity 331
natural waters 65
neutral carrier 331
Ni 123
nicotine acid 415
ninhydrin 265
4-(*p*-nitrophenylazo)-2-amino-3-pyridinol 97

open tubular column 147
organo-cadmium 87
osmium determination 351
overlapping equilibria 395
oxygen-flask combustion 87

penicillins 265
pentachlorophenol 171
pesticide residues 1
pesticides 387
pharmaceutical formulations 265
pharmaceuticals 415
philosophy 371
phosphorus 245
photometric 337
platinum group metals 231
polymers 271
position control 147
potentiometric detector 147
potentiometric titration 325
potentiometry 201
precipitation 159, 281, 291
preconcentration 1
Pt(IV) synergetic extraction 341
pulse polarography 407
4-pyridone 135
2-pyridyl thiourea 359

o-quinol 23
p-quinol 23

recuperation 311
rhenium 57, 359

sample introduction 249
Schöniger-flask method 245
selectivity 341
serum 33
silver 49, 97
solid-phase-extraction 387
solution equilibria 115
solvent extraction 191
spectrophotometric amplification 429
spectrophotometry 27, 57, 97, 135, 265, 351, 359, 395
speiss 49
submicron particles 65
sulfoxine 207

sulphide 239
strontium 15

thiocyanate 239
titanium 135
titration 73
trace metals 159
trilaurylamine N-oxide 191
tristimulus-colorimetry 73
truth in Analytical Chemistry 371
tungsten carbide 311

voltammetry 301

water 387
water analysis 1